CONCEPTS FOR THE ASSURED WATER SUPPLY RULES FOR THE SANTA CRUZ ACTIVE MANAGEMENT AREA
February 22, 2007

Preface

The Arizona Department of Water Resources (Department) is aware of the on-going settlement negotiations involving various surface water users within the Santa Cruz Active Management Area (SCAMA). The Department understands the negotiation process is intended to result in a settlement agreement that will be filed for court approval as part of the Gila River adjudication proceedings. The Department believes that several of the settlement provisions under consideration would require modifications to existing law, through either the enactment of new statutes or amendment of existing statutes. The Department, as well as the SCAMA Groundwater Users' Advisory Council, believes that in order to support the statutorily mandated management goal of SCAMA, the assured water supply rules must move forward as soon as possible. If in the future the SCAMA water users reach a settlement agreement that is approved by the Gila River adjudication court, the Department will further modify the rules at that time to the extent authorized by state law.

Background

In 1980, the Arizona State Legislature established four initial active management areas (AMAs), Phoenix, Tucson, Pinal, and Prescott, and determined that those areas required active management of groundwater. A.R.S. §§ 45-402(2); 45-411. In 1994, in recognition of the unique hydrologic and water management issues in the Upper Santa Cruz River Basin, the Legislature modified the Tucson AMA boundary and created the SCAMA. A.R.S. § 45-411.03(A). The issues unique to the Basin included the international nature of the river basin and problems posed by the hydrology of the Upper Santa Cruz River. The Legislature also acknowledged that water users within SCAMA sought coordinated management of the surface water and groundwater resources However, the Legislature expressly stated that the creation of SCAMA was not intended to modify or amend the fundamental laws and rights to surface water or groundwater within Arizona. A.R.S. § 45-411.02.

The Legislature established a management goal for each AMA. A.R.S. § 45-562. Pursuant to A.R.S. § 45-562(C), "The management goal of the Santa Cruz active management area is to maintain a safe-yield condition in the active management area and to prevent local water tables from experiencing long-term declines." The Department is required to develop a management plan for each of the five AMAs, including SCAMA. A.R.S. § 45-563. One unique requirement for SCAMA is the management plan must include "criteria for the location of new wells and replacement wells in new locations consistent with the management goal." A.R.S. § 45-563(B).

Assured Water Supply

A.R.S. § 45-576 provides that a person who proposes to offer subdivided lands for sale or lease within an AMA must demonstrate an assured water supply before presenting the subdivision plat for approval to the city, town or county and prior to filing with the State

Real Estate Commissioner a notice of intent to offer the lands for sale or lease. A.R.S. § 45-576(A). A developer may obtain a certificate of assured water supply (certificate) for a particular subdivision or a commitment of service from a municipal provider designated as having an assured water supply.

In order to obtain a certificate or a designation of assured water supply, the applicant must demonstrate that seven criteria are met. These are: 1) physical availability for 100 years, 2) legal availability for 100 years, 3) continuous availability for 100 years, 4) consistency with the management plan of the AMA, 5) consistency with the management goal of the AMA, 6) financial capability, and 7) adequate water quality. The applicant must demonstrate all seven requirements are met before the Department will issue a certificate or a designation.

Specific Rules to be Modified

The Department is proposing to modify the following specific assured water supply rules:

Physical Availability (R12-15-716)

1. Use statistical test for water withdrawn from a well.
2. For applications that are dry lot subdivisions also use maximum depth of 400'.

Continuous Availability (R12-15-717)

1. Amend to include SCAMA specific requirements by combining one or more of he following: hydrologic data to demonstrate source water will be available regardless of drought; presented backup supplies that are physically, legally and continuously available; drought response plan.

Consistency With Management Goal (R12-15-722)

1. Amend to reference Santa Cruz AMA Consistency with Goal rule (R12-15-728)

Legal Availability (R12-15-718)

1. For dual filed rights, use the lesser volume of the two rights as the maximum legal limit. In this way if one claim or right is invalidated somehow, the Department will not be in a position where it must reduce the legal volume after the fact.

Santa Cruz AMA Consistency with Management Goal (R12-15-728)

1. For water withdrawn from a well, use statistical test.
2. Possible creation of extinguishment credits (see below for further discussion).

In this concept the Department would be proposing three new provisions specifically for SCAMA within three of the general AWS rule provisions. Most of the existing assured water supply provisions would remain unchanged:

- For applications using traditional surface water diversions, physical availability would continue to be demonstrated by the use of firm yield or median flow as currently defined in rule.
- Small dry lot subdivisions (20 lots or less) would retain the existing exemption from meeting consistency with management goal requirement. However, they would still need to meet the physical availability test above 400'.

- For all applications with central providers and large dry lot subdivisions (dry lot subdivisions with more than 20 lots) the application must be consistent with management plan. This includes well spacing requirements. Existing well spacing requirements are within the current management plan. If the well spacing requirements were not met, the application would fail to meet the plan requirements under AWS.

Recharge and recovery of Long Term Storage credits

For applications using LTS credits recovered outside of the area of impact, SCAMA would remain like the other AMA's, where recovery of LTS credits occurring outside the "mound" of recharged supplies, the applicant must demonstrate physical availability[1]. The physical availability proof we are proposing in SCAMA is to be the statistical test, not the 1,000' depth as in other AMA's. In this way the recovery activity will not negatively impact the local water tables. If the applicant is proposing to recover in the area of hydrologic impact, then the volume recharged would be considered to be physically available.

Physical Availability and Consistency with Management Goal
(Statistical test)

For SCAMA, the tests for physical availability and consistency with the management goal of the AMA present unique challenges. However, the Department proposes that these two requirements may be addressed with what is essentially one test. The special criteria proposed to address the dual nature of the SCAMA management goal can also replace the physical availability requirements of the AWS rules within SCAMA, in order to avoid an inconsistency between the two requirements. Hydrologic studies developed to demonstrate physical availability for AWS applications in SCAMA must identify and adequately replicate the unique aquifer characteristics and hydrologic processes that affect water supply conditions within the area of hydrologic impact of a proposed new project. Additionally, such studies must use appropriate modeling techniques to simulate the future impacts of water withdrawals from the proposed project. Hydrologic studies for the AMA must also present an analysis of the projected modeling results that compares the projected impacts to established water level and groundwater discharge target levels.

Water withdrawals for assured water supply purposes in SCAMA must be consistent with both portions of the AMA's management goal of maintaining safe-yield and preventing local water tables from experiencing long-term declines, as well as demonstrate the 100-year physical availability of the water supply. Specifically, the modeling analysis must evaluate the results of multiple 100-year model simulations that include: the proposed future demand for the project, the current and committed demand of water users in the area, riparian demand (if applicable) and any other demands or hydrologic features that pertain to the modeled area in combination with a set of statistically based projections of future stream flow conditions. Proposed withdrawals for assured water supply purposes

[1] Please note that along with other restrictions, the recharge statues require that recovery of LTS credits outside of the area of hydrologic impact be consistent with the management goal of the AMA. A.R.S. §45-834.01(A)

in SCAMA will be determined to be physically available and consistent with the AMA's management goal if all of the following criteria are met:

1) A hydrologic study submitted by the applicant demonstrates the proposed withdrawals will not cause projected water levels in multiple model simulations to decline at established water level monitoring locations by more than one standard deviation below average historical depths for more than 10 percent of the 100-year AWS projection period.

2) Where applicable[2], a hydrologic study submitted by the applicant demonstrates the proposed withdrawals will not cause reductions in groundwater discharge in multiple model simulations to the Santa Cruz River or its tributaries that exceed one standard deviation below average historical discharge volumes for more 10 percent of the 100-year AWS projection period.

3) Projected periods of exceedence of historical depth to water or groundwater discharge volumes in multiple model simulations, as described in the above criteria, do not exceed 12 consecutive months.

In addition to demonstrating physical availability and consistency with the management goal (which maintain safe-yield and prevent long-term declines of the local water table), it should be noted that the new provisions will also help to ensure that new developments are consistent with the management plan by preventing long-term local well impacts. Of course, the Department will continue to apply A.A.C. R12-15-721 (the consistency with management plan requirements applicable to all AMAs), as written.

Existing Grandfathered Rights (GFR's)

In the other AMA's existing GFR rights may be voluntarily given up by the right holder (extinguished) for extinguishment credits. These extinguishment credits may then be used to support assured water supply applications need to meet the consistency with management goal requirement. In the other AMA's the amount of credits received is slowly diminishing until the amount of credits reaches zero. In the safe-yield AMA's this date is tied to the safe-yield target date (2025) and in the Pinal AMA it is date-specific in 2055. Additionally, these credits are fully portable anywhere within the AMA. Therefore, the cessation of pumping in one portion of the AMA, associated with new pumping miles away within the AMA, is consistent with the goal in the other AMA's as long as the total pumping associated with the assured supply determination is within the allowable limits. This concept is problematic within SCAMA due to the goal mandate "...to maintain a safe-yield condition in the active management area and to prevent local water tables from experiencing long-term declines."

The Department will facilitate further discussion on the possible creation of extinguishment credits within SCAMA. However, several possible alternatives are outlined below. These are starting points for continued discussion. Other possible alternatives may exist.

1. Do not allow the creation of extinguishment credits. Unlike the other AMA's that manage groundwater on an AMA-wide basis, the unique goal of SCAMA that

[2] Applicable in areas where groundwater discharge occurs to the Santa Cruz River or its tributaries.

requires the preservation of the local water tables does not readily allow for the transfer of allowable pumping from historically irrigated areas to other areas of the AMA. Further, unlike the other AMA's where agricultural demands represented the vast majority of the historical pumping, there is not the same underlying impetus to encourage the replacement of agricultural pumping with urban uses.

2. Allow, the creation of extinguishment credits, but allowable pumping would be limited to the same area of hydrologic impact of the original GFR. There would also be a corresponding reduction in allowable pumping with the conversion of the GFR to extinguishment credits. This would fit with the dual nature of the AMA goal, both preserving the local water tables, and the safe yield of the AMA by limiting geographically where such allowable pumping occurs, and reducing the allowable pumping from historical levels.

3. Allow the creation of extinguishment credits as in the other AMA's (i.e. allow them to be fully portable within the AMA). Under this proposal, the SCAMA rule would mirror the other AMA's. But the issue of preservation of the safe yield condition and the preservation of local water table elevations would be met due to the combination of the reduction of allowable pumping with the conversion of the GFR to extinguishment credits, and the fact that the assured supply determination would only be possible if the physical availability test (as proposed above) was also met. Under this option, the physical availability test would prevent excessive pumping in one portion of the AMA by the transferring of extinguishment credits from other portions of the AMA.

4. Allow the pledging of the GFR instead of creating a credit account. Under this proposal the AWS rules would allow the pledging of the GFR to an AWS application, and would take into account the cessation of the historical pumping in favor of the proposed AWS uses, during the physical availability review. This would be limited to areas that were hydrologically connected. In this way there is a formal recognition of the change in pumping, shifting from the old GFR to the new AWS demand, but ties such action to the goal of the AMA more directly through physical availability instead of artificial "credits" created on paper.

Dual Filed Rights

The issue of whether a well is pumping groundwater, surface water subflow, or both, is relevant throughout Arizona, but due to the hydrology of SCAMA, this issue occurs more frequently in SCAMA than in many other areas of the state. Many water right holders within SCAMA have "dual filed rights." That is, they hold groundwater rights, such as irrigation grandfathered rights or type 1 non-irrigation grandfathered rights, and have also filed surface water rights or claims with the Department. These dual filed rights usually involve the same withdrawal point(s) and same place(s) of use, and the same quantities of water. For these dual filed rights the AWS rule proposal would be to recognize only the volume of the lesser of the two rights to limit the potential of "double-dipping" of the supply. Limiting the volume of the dual filed right to the lesser of the two will eliminate the necessity for the Department to modify or revoke a determination of assured water supply in the future. If in the future the larger of the two volumes of the dual filed rights is validated, the Department would recognize that volume at that time.